...any ...ing in tables, data or other information that shall be accepted for one of these data sheets.

LOAD ON BEAM IN POUNDS

CREASE HERE.

PUNCH

TABLE OF SECTIONAL MODULI AND WEIGHTS PER FOOT OF BEAMS OF VARIOUS SECTIONS.

D	W	S	W	S	D	B	W	S	D	W	S	D	W	S	D	B	t	W	S
1	2.67	.10	3.40	.17	2	¼	1.70	.17	3	5½	1.7	3	4	1.1	¼	¼	⅛	.6	.02
1⅛	3.38	.14	4.30	.24	2	½	3.40	.33	3	6½	1.8	3	5	1.2	¾	¾	¹¹⁄₁₆	.8	.02
1¼	4.17	.19	5.31	.33	2	¾	5.10	.50	3	7½	1.9	3	6	1.4	1	1	⅛	.8	.03
1⅜	5.05	.26	6.43	.43	2	1	6.80	.67	4	7½	3.0	4	5½	1.9	1	1	¼	1.5	.06
1½	6.00	.33	7.65	.56	2½	¼	2.12	.26	4	8½	3.2	4	6½	2.1	1¼	1¼	¼	1.0	.05
1⅝	7.05	.42	8.98	.71	2½	½	4.25	.52	4	9½	3.4	4	7½	2.3	1¼	1¼	⁵⁄₁₆	2.4	.11
1¾	8.18	.53	10.41	.89	2½	¾	6.38	.78	4	10½	3.6	5	6½	3.0	1½	1½	¼	1.8	.10
1⅞	9.39	.65	11.95	1.10	2½	1	8.50	.04	5	9½	4.8	5	9	3.5	1½	1½	⅜	3.4	.19
2	10.68	.79	13.60	1.33	3	¼	2.55	.38	5	12½	5.4	5	11½	4.2	1¾	1¾	⁵⁄₁₆	2.1	.14
2⅛	12.06	.94	15.35	1.60	3	½	5.10	.75	5	14¾	6.1	6	8	4.3	1¾	1¾	⁷⁄₁₆	4.6	.30
2¼	13.52	1.12	17.22	1.90	3	¾	7.65	1.13	6	12¼	7.3	6	10½	5.0	2	2	⁵⁄₁₆	2.5	.19
2⅜	15.07	1.32	19.18	2.23	3	1	10.20	1.50	6	14¾	8.0	6	13	5.8	2	2	⁷⁄₁₆	5.3	.40
2½	16.69	1.53	21.25	2.60	3½	¼	5.95	1.02	6	17¼	8.7	6	15½	6.5	2¼	2	⁵⁄₁₆	2.8	.29
2⅝	18.40	1.77	23.43	3.00	3½	¾	8.93	1.53	7	15	10.4	7	9¾	6.0	2½	2	½	6.8	.70
2¾	20.20	2.04	25.00	3.46	3½	1	11.90	2.04	7	17½	11.2	7	12¼	6.9	2½	2½	¼	4.1	.40
2⅞	22.07	2.33	28.10	3.95	3½	1¼	14.87	2.55	7	20	12.1	7	14¾	7.8	2½	2½	½	7.7	.73
3	24.03	2.65	30.60	4.50	3½	1½	17.85	3.06	8	18	14.2	7	17¼	8.6	3	2½	¼	4.5	.56
3⅛	26.08	3.00	33.20	5.01	4	¾	10.20	2.00	8	20½	15.1	7	19¾	9.5	3	2½	⁹⁄₁₆	9.5	1.15
3¼	28.20	3.37	35.92	5.72	4	1	13.60	2.67	8	23	16.1	8	11¼	8.1	3	3	¼	4.9	.58
3⅜	30.42	3.77	38.73	6.40	4	1¼	17.00	3.33	8	25½	17.1	8	13¾	9.0	3	3	⁵⁄₁₆	6.0	.71
3½	32.71	4.21	41.65	7.14	4	1½	20.40	4.00	9	21	18.9	8	16¼	10.0	3	3	⅜	11.4	1.30
3⅝	35.09	4.68	44.68	7.94	4	2	27.20	5.33	9	25	20.4	8	18¼	11.0	3½	2½	¼	4.9	.75
3¾	37.56	5.18	47.82	8.79	5	1	17.00	4.16	9	30	22.6	8	21¼	11.9	3½	2½	⁵⁄₁₆	6.0	.93
3⅞	40.10	5.71	51.05	9.70	5	1½	25.50	6.24	9	35	24.8	9	13¼	10.5	3½	2½	1¼	12.4	1.85
4	42.73	6.28	54.40	10.70	5	2	34.00	8.32	10	25	24.4	9	15	11.3	3½	3	⁵⁄₁₆	6.6	.96
4¼	48.24	7.54	61.41	12.80	5	2½	42.50	10.40	10	30	26.8	9	20	13.5	3½	3	1⅛	15.7	2.25
4½	54.07	8.94	68.85	15.20	5	3	51.00	12.50	10	35	29.3	9	25	15.7	3½	3½	⁵⁄₁₆	7.1	.98
4¾	60.25	10.50	76.71	17.80	6	1	20.40	6.00	10	40	31.7	10	15	13.4	3½	3½	⅜	8.5	1.15
5	66.76	12.30	85.00	20.80	6	1½	30.60	9.00	12	31½	36.0	10	20	15.7	4	3	⅝	17.1	2.25
5¼	73.60	14.20	93.72	24.10	6	2	40.80	12.00	12	35	38.0	10	25	18.2	4	3	⁵⁄₁₆	7.1	1.23
5½	80.77	16.30	102.80	27.70	6	2½	51.00	15.00	15	42	58.9	10	30	20.6	4	3	1³⁄₁₆	17.1	2.87

Computed by J. S. Myers, Philadelphia, Pa.

TABLE OF SECTIONAL MODULI AND WEIGHTS PER FOOT OF BEAMS OF VARIOUS SECTIONS (Continued).

D	W	S	W	S	D	B	W	S	D	W	S	D	W	S	D	B	t	W	S
5¾	88.29	18.7	112.4	31.6	6	3	61.2	18.0	15	45	60.8	10	35	23.1	4	4	⁵⁄₁₆	8.2	1.29
6	96.14	21.2	122.4	36.0	6	3½	71.4	21.0	15	50	64.5	12	20½	21.4	4	4	⅜	9.7	1.52
6¼	104.3	24.0	132.8	40.6	6	4	81.6	24.0	15	55	68.1	12	25	24.0	4	4	1¹⁄₁₆	19.9	3.01
6½	112.8	26.9	143.6	45.7	8	2	54.4	21.3	18	55	88.4	12	30	26.9	5	3	⁵⁄₁₆	8.2	1.89
6¾	121.7	30.2	154.9	51.2	8	3	81.6	32.0	18	60	93.5	12	35	29.9	5	3	1¹⁄₁₆	19.9	4.45
7	130.9	33.7	166.6	57.1	8	4	108.8	42.6	18	65	97.9	12	40	32.8	5	3½	⅜	10.4	2.29
7½	150.2	41.4	191.3	70.3	8	5	136.0	53.3	18	70	102.4	15	33	41.7	5	3½	⅞	22.7	4.88
8	171.0	50.2	217.6	85.3	8	6	163.2	64.0	20	65	117.0	15	35	42.7	6	3½	⅜	11.7	3.25
8½	193.0	60.3	245.6	103.3	9	3	91.8	40.5	20	70	122.0	15	40	46.3	6	3½	⅞	25.7	6.98
9	216.3	72.8	275.4	121.5	9	6	183.6	81.0	20	75	126.9	15	45	50.0	6	4	½	12.3	3.32
9½	241.0	84.1	306.8	142.7	10	4	136.0	66.7	24	80	174.0	15	50	53.7	6	4	⅞	27.2	7.15
10	267.0	98.2	340.0	166.7	10	6	204.0	100.0	24	85	180.7	15	55	57.4	6	6	⁵⁄₁₆	17.2	4.07
10½	294.4	113.6	374.9	192.7	10	8	272.0	133.3	24	90	186.6	..	..	...	6	6	⅜	33.1	7.64
11	323.1	130.7	411.4	221.7	12	6	244.8	144.0	24	95	192.5	..	..	...	8	8	½	26.4	8.37
11½	353.1	149.2	449.6	253.5	12	8	326.4	192.0	24	100	198.4	..	..	...	8	8	1¼	58.3	18.40
12	384.5	169.5	489.6	288.0	12	10	408.0	240.0	..	..	...	..	..	...	..	..	..	..	..

DIRECTIONS FOR USING THE BEAM CHARTS.

To find a proper section to support a given load with a given length of beam:

Find the length of the beam in that horizontal line at the top which shows the same nature of loading as the case in hand; follow vertical line directly underneath this line, downward until it intersects with a diagonal line corresponding to the load; following the horizontal line from this point to the column on the left gives the bending moment; following this same line to the right until it intersects with the diagonal line representing the stress it is desired to use, and following the vertical line from this new point to the bottom horizontal line, we find the section modulus required. Find this section modulus in the table for the form of section desired and the size of beam and weight per foot are given.

The proper stress to use depends upon conditions and should be selected to suit the case in hand. The following values may be used:

	Shock.	Moving Load.	Quiescent Load.
Nickel Steel (Oil Tempered).	15,000 to 20,000	20,000 to 25,000	25,000 to 30,000
Structural Steel (Medium).	7,500 to 10,000	12,500 to 14,000	16,000 to 17,000
Steel Casting.	6,000 to 8,000	8,000 to 11,000	10,000 to 14,000
Cast Iron.	1,000 to 2,000	2,000 to 4,000	4,000 to 6,000

When a beam is not supported laterally for distances greater than 20 times the width of the compression flange, lower stresses must be used. Short beams heavily loaded may fail by crippling of the web.

Computed by J. S. Myers, Philadelphia, Pa.